REMARKS

Claims 1-43 are pending in the present application. Claims 1-43 are amended. No new matter has been added as a result of the above amendments. Reconsideration of the claims is respectfully requested.

I.   **35 U.S.C. § 101, Claims 21-43**

The Examiner has rejected claims 21-43 under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. This rejection is respectfully traversed.

> Regarding claims 21-43, the Office Action states:
> > Regarding claims 21-43, Applicant claims a "module" or "means" or "instructions," which are software per se. A software program which is not tangibly embodied on a computer readable medium, is merely a manipulation of abstract ideas. With specific regard to claims 41-43, which each claim a computer readable medium, a computer readable medium as defined by applicant is not limited to tangible embodiments. In view of Applicant's disclosure, specifications page 28, lines 12-24, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., hard disk drives) and intangible embodiments (e.g., transmission-type media). As such, the claims are not limited to statutory subject matter and is therefore non –statutory.

Office Action dated June 30, 2005, page 2

By this Response, claims 21-40 are amended to eliminate the "means for" limitations. Claims 21-40 now recite a data processing system that comprises a bus, a memory, a storage device containing computer usable code, a communication unit connected to the bus; and a processing unit connected to the bus that executes the computer usable code to perform the corresponding claim limitations. In addition, claims 41-42 are amended to recite a computer program product for processing shared data that comprises a computer usable medium having computer useable program code embodied therein. Thus, the computer medium as defined by Applicants is now limited to a medium that is usable by a computer and has computer usable program code embodied therein configured to perform the corresponding claim limitations. Therefore, the rejection of claims 21-43 under 35 U.S.C. § 101 has been overcome.

II. **35 U.S.C. § 112, Second Paragraph, Claims 3, 5, 7-13, 23, 25, and 27-37**

The Examiner has rejected claims 3, 5, 7-13, 23, 25, and 27-37 under 35 U.S.C. § 112,

second paragraph, as failing to particularly point out and distinctly claim the subject matter

which Applicants regard as the invention. This rejection is respectfully traversed.

Regarding claims 3, 5, 7-13, 23, 25, and 27-37, the Office Action states:

> With regards to claims 3, 5, 7-13, 23, 25, and 27-37, the terms "edit topic"
> and "transaction topic" render each claim indefinite. The term "topic" is
> indefinite in the context of the claims. Applicant must clearly point out how a
> topic relates to a messaging service. Additionally it is not clear whether the terms
> "edit" and "transaction" imply a specific action to take or are rather just an
> identifier for naming various queues.

Office Action dated June 30, 2005, page 3

By this Response, claims 1 and 21 are amended to clarify the relationships between a

topic and the messaging service. In addition, claims 3, 5, 7, 23, 25, and 27 are amended to define

the terms "edit topic" and "transaction topic". Therefore, the objection of claims 3, 5, 7-13, 23,

25, and 27-37 under 35 U.S.C. § 112, second paragraph has been overcome.

III. **35 U.S.C. § 102(b), Alleged Anticipation, Claims 1-43**

The Examiner has rejected claims 1-43 under 35 U.S.C. § 102(b) as being anticipated by

Kermarrec et al. This rejection is respectfully traversed.

Regarding claims 1 and 41, the Office Action states:
> With regard to claims 1 and 41, Kermarrec disclosed a method for
> processing shared data comprising:
> receiving a request to perform a task on shared data (e.g. pg 282 Clients
> method call or Object communication pg 278);
> creating a work item message for the task (pg 282 Clients – messages to
> server); and
> publishing the work item message to a messaging service (pg 278; Control
> object).

Office Action dated June 30, 2005, pages 3-4

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if

every element of a claimed invention is identically shown in that single reference, arranged as

they are in the claims. *In re bond*, 910 F .2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed Cir. 1990).

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All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 21 U.S.P.Q.2d 1031, 1034 (Fed Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). Specifically, Kermarrec does not teach every element of the claimed invention arranged as they are in claims 1, 21 and 41 of the present invention.

Amended independent claim 1, which is representative of claims 21 and 41 with regard to similarly recited subject matter, now recites:

1.   A computer implemented method for processing shared data comprising:
     receiving a request to perform a task on shared data;
     creating a work item message for the task; and
     publishing the work item message to a messaging service by posting the working item message to a topic of the messaging service based on a type of the task, wherein the topic is a category by which messages in the messaging service are sorted. (Emphasis added).

Kermarrec does not teach the features as emphasized above. As discussed in the abstract, Kermarrec teaches constructing a Web document as a Web object. Depending on the coherence requirements for the Web document, the caching or replication strategy can be subsequently implemented and encapsulated by the Web object. Coherence requirements are formulated from the perspectives of the Web object and that of clients using the Web object.

Kermarrec does not teach publishing the work item message to a messaging service by posting the working item message to a topic of the messaging service based on a type of the task, wherein the topic is a category by which messages in the messaging service are sorted. The Office Action alleges that Kermarrec teaches these features on page 278, where Kermarrec teaches a control object. However, the control object that Kermarrec teaches merely handles incoming invocation requests from the client and interactions between internal semantics object and replication object. **Figure 1** of Kermarrec, illustrating the control object, is shown below:
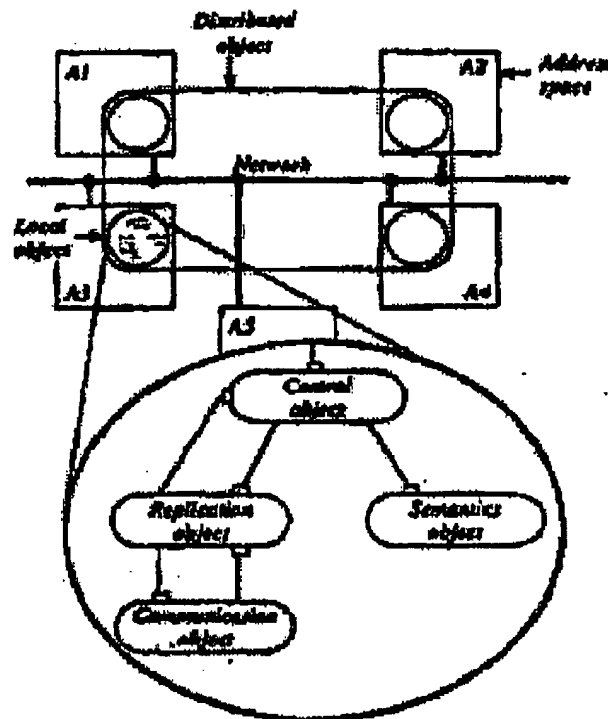
Figure 1: Example of an object distributed across four address spaces.

As shown in **Figure 1**, a local object, representing a distributed Web object that resides in a client's address space on the network, includes four components: a control object, a semantics object, a communication object, and a replication object. The control object acts as an interface between the replication object, the semantics object, and the client process. The control object does not publish a work item message to a messaging service, because the control object only interacts with client, not the messaging service. Even if the control object interacts with a messaging server, Kerrmarrec still does not teach posting the working item message to a topic of the messaging service based on a type of the task, wherein the topic is a category by which messages in the messaging service are sorted. Nowhere in the reference does Kerrmarrec mention a topic, which is a category by which messages are sorted. Kerrmarrec merely ensures that the object's state is consistent after another client makes an update to the object's state (p. 277, introduction). Kerrmarrec does not sort messages in any way. Since Kerrmarrec does not teach a topic of the messaging service by which messages in the messaging service are sorted, Kerrmarrec also does not teach posting a message to a topic of the messaging service by which

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messages in the messaging service are sorted.

Kerrmarrec's framework is different from the presently claimed invention in that Kerrmarrec is not interested in posting a message to the messaging service. Kerrmarrec is only interested in providing a caching and a replication framework that allows separate Web documents to be represented as Web objects. In addition, Kerrmarrec's framework only has to do with keeping the object's state consistent (coherent) when multiple clients perform read and write operations on that state (p. 277, introduction). Kerrmarrec's framework has nothing to do with posting a message to the messaging service or posting a message to a topic of the messaging service that represents a category by which the messages in the messaging service are sorted. Therefore, Kerrmarrec does not teach the features of claims 1, 21, and 41 of the present invention.

Amended independent claim 6, which is representative of claims 26 and 42 with regard to similarly recited subject matter, now recites:

> 6.   A computer implemented method for processing shared data comprising:
>   receiving a work item message from a messaging service by consuming the work item message from a topic of the messaging service, wherein the topic is a category by which messages in the messaging service are sorted;
>   processing the work item message based on the topic; and
>   publishing a result to a result topic of the messaging service, wherein the result topic is a category identifying results of processing the work item message.
> (Emphasis added)

Kerrmarrec does not teach the features emphasized above. The Office Action alleges that Kerrmarrec teaches receiving a work item message from the messaging service on page 282, where Kerrmarrec teaches that clients perform a read operation by translating method calls to messages which are sent to the caches (or server) to retrieve (or write) data. However, there is no teaching or suggestion that the client consumes a message from a topic of a messaging service that is a category by which messages are sorted. As discussed above, Kerrmarrec fails to teach a topic of the messaging service, which is a category by which messages are sorted, because Kerrmarrec does not mention sorting messages. Therefore, Kerrmarrec would not teach consuming a work item message from such topic.

In addition, Kerrmarrec does not teach processing the work item message based on the topic. The Office Action alleges that Kerrmarrec teaches these features on page 281, section 4.1, where Kerrmarrec teaches a PRAM coherence model that is applied to all replicas and a read your writes client-based coherence model that is applied to the Web master client. However,

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nowhere in this section, or any other section, does Kerrmarrec mention processing requests based on the topic, which is a category by which the messages are sorted. The PRAM coherence model that is applied to the replicas guarantees that writes made by a client appear in every store in the order in which they have been issued (p. 279, section 3.2.1). Thus, the model is concerned with the order by which writes made by a client are issued, not a category by which the messages are sorted.

On the other hand, the read your writes client-based coherence model that is applied to a Web master client merely ensures that every write by a client is visible to all subsequent reads by that client (p.280, section 3.2.2). Thus, the model is concerned with making sure that a write made by a client is readable by the same client. None of these models have anything to do with processing a message based on a topic, which is a category by which the messages are sorted.

Furthermore, Kerrmarrec does not teach publishing a result to a result topic of the messaging service, wherein the result topic is a category identifying results of processing the work item message. The Office Action alleges that Kerrmarrec teaches these features on page 281, section 4.1, where Kerrmarrec teaches that updates to replicas are made following the PRAM coherence model. However, Kerrmarrec merely teaches applying the model itself to the replicas, not applying the updates to the replicas. In addition, Kerrmarrec does not mention anything about a result topic of the messaging service, which is a category that identifies results of processing the work item message. The PRAM coherence model as discussed above merely guarantees that writes made by a client appear in every store in the order in which they have been issued. Thus, the model is concerned with the order by which writes made by a client are issued, not a category identifying results of the processing a message. Therefore, Kerrmarrec does not teach the features of claims 6, 26, and 42 of the present invention.

Amended independent claim 18, which is representative of claims 38 and 43 with regard to similarly recited subject matter, now recites:

18.   A computer implemented method for processing shared data comprising:
    receiving a result from a result topic of a messaging service, wherein the result topic is a category identifying results of processing work item messages;
    processing the result based on a type of the result; and
    updating shared data based on a brand of the result, wherein the brand of the result identifies one of a current node and all nodes. (Emphasis added)

Kerrmarrec does not teach the features emphasized above. The Office Action alleges that

Kerrmarrec teaches receiving a result from a result topic of a messaging service on page 278, where Kerrmarrec teaches a control object send messages to the replication object. However, as discussed above in the arguments presented for claims 1, 21, and 41, the control object merely interacts with a client, not the messaging service. While Kerrmarrec teaches that the replication object operates on invocation messages in which method identifiers and parameters have been encoded, the message invocations are received from the client process instead of the messaging service. In addition, there is no mention of a result topic of the messaging service that is a category identifying results of processing the messages. Therefore, Kerrmarrec does not and would not have received a result from a result topic that is a category identifying results of processing work item messages.

Furthermore, Kerrmarrec fails to teach processing the result based on a type of the result. The Office Action alleges that Kerrmarrec teaches processing these features on page 278, where Kerrmarrec teaches that the global state of a distributed object is made up of the state of its various semantics objects and the replication object keeps the replicas of these semantic objects consistent according to some coherence strategy. However, keeping the objects consistent with a coherence strategy has nothing to do with processing the result based on a type of result. In the presently claimed invention, as described in **Figure 9** of the current specification, depending on whether the type of the result is a response, a transaction, or an edit, the result is processed differently. Kerrmarrec does not teach such features. Kerrmarrec merely teaches keeping objects' state consistent by adhering to a coherence model. Kerrmarrec does not identify the type of result. In addition, Kerrmarrec does mention anything about updating shared data based on a brand of the result, wherein the brand of the result identifies one of a current node and all nodes. There is no mention of a brand of result that is one of a current node and all nodes. Kerrmarrec does not distinguish between a current node and all nodes. Therefore, Kerrmarrec fail to teach the features as recited in claims 18, 38, and 43 of the present invention.

In view of the above, Kerrmarrec does not teach each and every feature of claims 1, 6, 18, 21, 26, 38 and 41-43. At least by virtue of their dependency on claims 1, 6, 18, 21, 26 and 38, Kerrmarrec does not teach the features of dependent claims 2-5, 7-17, 19-20, 22-25, 27-37, and 39-40. In addition, dependent claims 2-5, 7-17, 19-20, 22-25, 27-37, and 39-40 of the presently claimed invention also contain additional features not found in the Kerrmarrec reference. Accordingly, the rejection of claims 1-43 under 35 U.S.C. § 102(b) has been overcome.

IV. **Conclusion**

It is respectfully urged that the subject application is patentable over Kermarrec and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: September 21, 2005

Respectfully submitted,

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